REMARKS

Claims 1-9, 11-27 and 29-36 are pending in the present application. By this response, claims 1, 3, 4, 7-9, 12, 17, 19, 21, 22, 25-27, 30 and 35 are amended and claims 10 and 28 are canceled. Claims 1-5, 7-9, 12, 17, 19-23, 25-27, 30 and 35 are amended to correct minor informalities and for proper antecedent basis. Claims 1, 17, 19 and 35 are further amended to incorporate subject matter similar to canceled claims 10 and 28. Reconsideration of the claims in view of the above amendments and the following remarks is respectfully requested.

I. Examiner Interview

Applicant thanks Examiner Luu for the courtesies extended Applicants' representatives during the November 9, 2004 telephone interview. During the interview, the differences of the applied references to that of the presently claimed invention were discussed. Examiner Luu indicated that he would consider the amendments. The substance of the interview is summarized in the remarks of the sections that follow.

II. 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 1, 8, 12 and 30 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. This rejection is respectfully traversed. Claims 1, 8, 12 and 30 are amended for clarity by providing proper antecedent basis and to more clearly recite the subject matter which Applicants regard as the invention. Therefore, the rejection of claims 1, 8, 12 and 30 under 35 U.S.C. § 112, second paragraph is overcome.

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III. 35 U.S.C. § 102, Alleged Anticipation, Claims 1-36

The Office Action rejects claims 1-36 under 35 U.S.C. § 102(e) as being anticipated by Van Watermulen et al. (U.S. Patent No. 6,604,046 B1). This rejection is respectfully traversed.

As to claim 1, the Office Action states:

> As to claim 1, Watermulen teaches the invention substantially as claimed, including a method in a data processing system for accessing a client service, the method comprising:
> managing a pool of connections to the client service (col. 4 line 61 – col. 5 line 8);
> responsive to a request from a user application from a plurality of user applications assigning a client service from the pool of client service instances (col. 4 line 61 – col. 5 line 27);
> invoking the request on the client service (col. 5 line 9 – 41); and
> responsive to receiving a response from the client service, returning the result to the user application (col. 5 lines 55).

Office Action dated August 13, 2004, pages 3-4.

Claim 1, which is representative of the other rejected independent claims 17, 19 and 35 with regard to similarly recited subject matter, reads as follows:

> 1. A method in a data processing system for accessing a client service, the method comprising:
> managing a pool of connections to client service instances;
> responsive to a request from a client from a plurality of clients, assigning a connection to a client service instance to the client from the pool of connections to the client service instances;
> invoking the request on the client using the connection to the client service instance;
> responsive to receiving a response to the request from the client service instance, returning the result to the client; and
> placing the request in a queue if there is no free client service instance within the pool of connections to the client service instances.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re bond*, 910 F .2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 21 U.S.P.Q.2d 1031, 1034

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(Fed Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. Kalman v. Kimberly-Clark Corp., 713 F .2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). Applicants respectfully submit that Van Watermulen does not teach every element of the claimed invention arranged as they are in the claims. Specifically, Van Watermulen does not teach placing the request in a queue if there is no free client service instance within the pool of connections to the client service instances.

Van Watermulen is directed to a system that distributes map data and related map services. The Van Watermulen system comprises a server, which retrieves map data, and a client, which electronically requests and receives map data from the server over a computer network. The Van Watermulen system includes a map server having two or more client-mode software modules or programs that govern how the server interacts with the clients. The first client links to the first program and receives a copy of several mapping objects, enabling the first client to provide certain map functions independent of the server. The second client links to the server and receives proxy mapping objects, instead of the actual mapping objects, enabling the second client to work with the server to provide the map functions. The Van Watermulen system also implements client-side and server-side caching of map data, and expandable map service pools, all promoting rapid delivery of map data and services.

Nowhere, in any section of Van Watermulen, is it taught to place the request in a queue if there is no free client service instance within the pool of connections to the client service instances. The Office Action alleges that this feature is taught at column 3, lines 6-21, column 4, line 61 to column 5, line 27, column 11, line 34 and column 12, line 49, which read as follows:

> Other notable features of the exemplary system include a web server between the clients and the map server. The exemplary web server provides a pool of persistent network connections to the map server to reduce time for initiating connections and thus to promote rapid response to map requests. Additionally, the map server includes a service dispatcher for appropriately distributing client requests across expandable sets of service pools, with each service pool including two or more functionally identical service objects for executing a particular map service. Exemplary services include map-data-access services, geocoding services, street-routing services, map-image-display services, and even custom user-

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defined services. The service pools are configurable to expand in response to demand criteria and thus to dynamically scale the map server to meet changing demands for map data and services.

(Column 3, lines 6-21)

One or more of the software modules contains caching software, for example, in the form of objects, enabling the establishing and maintaining of map-related caches, such as caches 116.1 and 118.1 in clients 116 and 118. Servlet 132 includes a FIFO-based connection pool 132.1 comprising a set of one or more persistent socket connections 132.11, 132.12, and 132.13 to map server 140. (Although only three are shown, the exemplary embodiment can be configured to includes any number of connections.) Map server 140 includes a property file 140.1, a connection manager 141, a service dispatcher 142, a map-data-access services pool 143, a shared map-data cache 144, a geocoding-services pool 145, a street-routing-services pool 146, an external-map-access-services pool 147, a map-image-display-services pool 148, and a custom-application-services pool 149.

Connection manager 141 is coupled to socket connections 132.11-132.14. All client requests and corresponding responses feed through the connection manager, with the connection manager functioning in a handshaking capacity. Each socket connection essentially represents a thread through the map server. The connection manager also monitors the number of connections against a maximum number of connections set in the map-server property file 140.1 (which is described below in greater detail.) Thus, if connection pool 132 attempts to open a new connection because none of its present connections are available for use, the connection manager can prevent opening of the new connection depending on whether the maximum number of connections are already open. Related, some embodiments of the invention monitor the use of existing connections, closing those that have been inactive for too long as measured against a parameter in property file 140.1. This monitoring function can be placed within the connection manager or in another object or software module.

(Column 4, line 59 to column 5, line 27)

ofx.connection.timeout=0

(Column 11, line 34)

ofx.service.timeout=120

(Column 12, line 49)

In column 3, lines 6-21, Van Watermulen describes a web server between the clients and the map server, where the web server provides a pool of persistent network connections

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to the map server to reduce time for initiating connections and thus to promote rapid response to map requests. Also in this section, Van Watermulen describes a map server that includes a service dispatcher for appropriately distributing client requests across expandable sets of service pools. In column 4, line 59 to column 5, line 27, Van Watermulen describes a connection being made from the client to the connection manager through socket connections in response to a request from a client. Van Watermulen further describes that the connection is a thread to the map server. In column 11, line 34 and column 12, line 49, Van Watermulen describes a timeout feature. Nowhere in any of these sections, is a queue described where a request is placed in the queue if there are no free client services within the pool of connections to the client service instances. In fact, the term "queue" does not appear in any section of the Van Watermulen reference.

Claim 13, which is representative of the other rejected independent claims 18, 31 and 36 with regard to similarly recited subject matter, reads as follows:

> 13. A method in a data processing system for accessing a client service, the method comprising:
>
> receiving requests for the client service, wherein the client service is a single-threaded process;
>
> queuing a new request if a current request has been invoked on the client service;
>
> responsive to receiving a response to the current request from the client service, returning the result to a requestor of the current request; and
>
> invoking the new request on the client service.

Applicants respectfully submit that Van Watermulen does not teach every element of the claimed invention arranged as they are in the claims. Specifically, Van Watermulen does not teach queuing a new request if a current request has been invoked on the client service. The Office Action fails to provide a section of Van Watermulen that teaches this specific feature. Nowhere in any section of Van Watermulen is queuing requests even mentioned. In fact, Van Watermulen teaches in column 5, lines 17-22, that the connection manager only prevents the opening of a new connection depending on the number of already open connections.

Thus, Van Watermulen does not teach each and every feature of independent claims 1, 13, 17-19, 31, 36 and 37 as is required under 35 U.S.C. § 102. At least by

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virtue of their dependency on independent claims 1, 13, 19 and 31, the specific features of dependent claims 2-9, 11, 12, 14-16, 20-27, 29, 30 and 32-34 are not taught by Van Watermulen. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-9, 11-27 and 29-36 under 35 U.S.C. § 102.

Furthermore, Van Watermulen does not teach, suggest or give any incentive to make the needed changes to reach the presently claimed invention. Absent the Examiner pointing out some teaching or incentive to implement Van Watermulen such that the request is placed in a queue if there is no free client service instance within the pool of connections to the client service instances and a new request is queued if a current request has been invoked on the client service, one of ordinary skill in the art would not be led to modify Van Watermulen to reach the present invention when the reference is examined as a whole. Absent some teaching, suggestion or incentive to modify Van Watermulen in this manner, the presently claimed invention can be reached only through an improper use of hindsight using the Applicants' disclosure as a template to make the necessary changes to reach the claimed invention.

Moreover, in addition to their dependency from independent claims 1, 13, 19 and 31, the specific features recited in dependent claims 2-9, 11, 12, 14-16, 20-27, 29, 30 and 32-34 are not taught by Van Watermulen. For example, with regard to claims 2 and 20, Van Watermulen does not teach freeing the client service instance back to the pool after invoking the request on the client service. The Office Action alleges that this feature is taught at column 4, line 59 to column 5, line 27, shown above. As discussed above, this section of Van Watermulen describes a connection being made from the client to the connection manager through socket connections in response to a request from a client. While Van Watermulen does describe closing a connection that has been inactive for too long, Van Watermulen does not teach freeing the client service back to the pool after invoking the request on the client service. In fact, Van Watermulen seems to teach leaving the connection from the client to the map server in tact, until either the client closes a URL connection to the web server or the session has been inactive for a certain amount of time.

As an additional example, with regard to claims 3 and 21, Van Watermulen does not teach waiting for the response from the client service after the client service has been

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invoked, and responsive to a timeout occurring while waiting for the response, returning a response to the client indicating that the timeout has occurred. The Office Action alleges that this feature is taught at column 4, line 59 to column 5, line 27, shown above. As discussed above, this section of Van Watermulen describes a connection being made from the client to the connection manager through socket connections in response to a request from a client. While Van Watermulen does describe closing a connection that has been inactive for too long, Van Watermulen does not teach in response to a timeout occurring while waiting for the response from the client service, returning a response to the client indicating that the timeout has occurred. In fact, Van Watermulen seems to teach leaving the connection from the client to the map server in tact until the session has been inactive for a certain amount of time.

As a further example, with regard to claims 7 and 25, Van Watermulen does not teach that the pool of connections to the client service instances is used to access report services on a server. The Office Action alleges that this feature is taught at column 4, line 59 to column 5, line 27, shown above. Nowhere in this section, or any other section of Van Watermulen, are reports or report services even mentioned. Additionally, Van Watermulen is directed to providing mapping services in the terms of directions or location maps to the client. Thus, Van Watermulen does not teach accessing report services though a pool of connections to the client service instances.

As still a further example, with regard to claims 9 and 27, Van Watermulen does not teach where an error message is returned to the client after a period of time passes without receiving the response. The Office Action alleges that this feature is taught at column 3, lines 6-21, column 4, line 61 to column 5, line 27, column 11, line 34 and column 12, line 49, shown above. Nowhere in these sections, or any other section of Van Watermulen, is an error message ever sent to the user or even mentioned. That is, the term "error" does not appear anywhere in the Van Watermulen reference.

As a further example, with regard to claims 14 and 32, Van Watermulen does not teach where requests are sent to the client service form the queue in a first-in-first-out basis. The Office Action fails to provide a section of Van Watermulen that teaches this feature but, instead, rejects this claim in under the same rationale as claims 1-12. Applicants respectfully submit that Van Watermulen does not clearly state any method

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for processing requests. Moreover, nowhere in any section of Van Watermulen is first-in-first-out even mentioned.

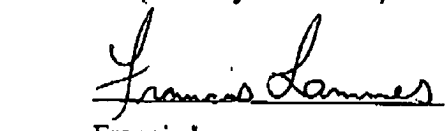
Therefore, in addition to being dependent on independent claims 1, 13, 19 and 31, dependent claims 2-9, 11, 12, 14-16, 20-27, 29, 30 and 32-34 are also distinguishable over Van Watermulen by virtue of the specific features recited in these claims. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 2-9, 11, 12, 14-16, 20-27, 29, 30 and 32-34 under 35 U.S.C. § 102.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the prior art of record and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

DATE: November 15, 2004



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